

What is claimed is:

1 1. A filter comprising:

2 a filter element;

3 a core member in fluid communication with the filter element; and

4 a sleeve of a substantially fluid non-permeable material surrounding at least a

5 portion of one end of the filter element.

1 2. A filter of claim 1 wherein the sleeve surrounds substantially all of the filter element

2 and has perforations through a portion of the sleeve with the perforations in the sleeve toward one
3 end of the filter element.

4 3. A filter of claim 1 wherein the filter element is comprises a material selected from
5 pleated media and non-pleated media.

6 4. A filter of claim 3 wherein the non-pleated media is selected from the group
7 comprising wrapped media, solid media and granular media.

8 5. A filter element of claim 3 wherein the pleated media comprises a material selected
9 from the group comprising cellulose, polypropylene, polyethylene, polyester, fiberglass, cloth,
10 paper, nylon, orlon, teflon and combinations thereof.

1 6. A filter element of claim 4 wherein the wrapped media comprises a material selected
2 from the group comprising spunbonded material, cloth, polypropylene, polyester and mixtures
3 thereof.

1 7. A filter element of claim 1 further comprising a rigid support surrounding the filter
2 element inside the sleeve.

1 8. A filter element of claim 1 wherein the rigid support further comprises a mesh.

1 9. A filter element of claim 1 wherein the core member comprises a rigid perforated
2 tube.

1 10. A filter comprising:
2 a housing with a fluid inlet and a fluid outlet;
3 a filter element disposed within the housing;
4 said filter element having a central core in fluid communication with the filter
5 element;
6 the fluid outlet of the housing in communication with the central core; and
7 a sleeve of a substantially fluid non-permeable material surrounding at least a
8 portion of one end of the filter element preventing fluid flow into the filter
9 element.

1 11. A filter of claim 10 wherein the fluid inlet of the housing is towards the end of the
2 filter surrounded by the sleeve.

1 12. A filter of claim 10 wherein the sleeve member surrounds substantially all of the filter
2 element and has perforations through a portion of the sleeve with the perforations in the sleeve
3 toward one end of the filter element and providing fluid communication to the filter element.

1 13. A filter of claim 10 further comprising a sleeve member which is joined to an end cap
2 on which the filter element abuts and has a central cylindrical extension in fluid communication with
3 the central core and has a seal member on the central cylindrical extension and is coupled to the
4 outlet of the housing.

1 14. A filter of claim 13 wherein the seal member further comprises a gasket, said gasket
2 configured to direct the fluid from the central core through the outlet of the housing.

1 15. A filter of claim 10 wherein the filter element comprises a material selected from
2 pleated media and non-pleated media.

1 16. A filter of claim 15 wherein the non-pleated media is selected from the group
2 comprising wrapped media, solid media and granular media.

1 17. A filter element of claim 16 wherein the pleated media comprises a material selected
2 from the group comprising cellulose, polypropylene, polyethylene, polyester, fiberglass, cloth,
3 paper, nylon, orlon, teflon and combinations thereof.

1 18. A filter element of claim 16 wherein the wrapped media comprises a material selected
2 from the group comprising spunbonded material, cloth, fiberglass, polypropylene, polyester and
3 mixtures thereof.

1 19. A filter element of claim 10 further comprising a rigid support surrounding the filter
2 element inside the sleeve.

3 20. A filter element of claim 19 wherein the rigid support further comprises a mesh.

4 21. A filter element of claim 10 wherein the central core comprises a rigid perforated
5 tube.

6 22. A filter comprising:

1 a cylindrical filter element of pleated filter media;

2 a perforated central core extending through and surrounded by the pleated filter
3 media;

4 a sleeve of substantially fluid non-permeable material surrounding the outside of the
5 pleated filter media;

1 the sleeve having perforations through one of the top and the bottom of the sleeve
2 capable of providing fluid communication to the filter element;
3 a circular top end cap covering and securing the sleeve, the top of the filter element
4 and the core; and
5 a circular bottom end cap with a central cylindrical extension in fluid communication
6 with the central core, said bottom cap securing and covering the sleeve and
7 the bottom of the filter element.

1 23. A filter of claim 22 further comprising a seal member on the central cylindrical
2 extension of the bottom end cap adaptable to be received in a filter housing to provide a substantially
3 leak-proof connection.
4

5 24. A filter comprising:
6 a filter element;
7 a core member in the filter element extending a partial length of the filter element
8 from one end of the filter element; and
9 said core member composed of a substantially fluid non-permeable material.
10

1 25. A filter of claim 24 wherein the core member extends substantially the length of the
2 filter and has fluid communication to the core member toward one end of the filter element.

1 26. A filter of claim 24 wherein the filter element comprises a material selected from
2 pleated media and non-pleated media.

1 27. A filter of claim 26 wherein the non-pleated media is selected from the group
2 comprising wrapped media, solid media and granular media.

1 28. A filter element of claim 26 wherein the pleated media comprises a material selected
2 from the group comprising cellulose, polypropylene, polyethylene, polyester, fiberglass, cloth,
3 paper, nylon, orlon, teflon and combinations thereof.

 29. A filter element of claim 27 wherein the wrapped media comprises a material selected
 from the group comprising spunbonded material and cloth.

 30. A filter element of claim 24 further comprising a rigid support surrounding the filter
 element which allows for fluid flow into the filter element.

1 31. A filter element of claim 30 wherein the rigid support further comprises a mesh.

1 32. A filter element of claim 24 wherein the core member comprises a rigid member.

1 33. A filter element of claim 32 wherein the central core is a rigid perforated cylindrical
2 member.

1 34. A filter comprising:
2 a housing with a fluid inlet;
3 a filter element disposed within the housing;
4 said filter element having a central core with a fluid non-permeable portion toward
5 one end of the filter and the central core in fluid communication with the
6 filter element on the other end of the filter;
7 said housing having a fluid inlet in communication with the central core; and
8 said housing having a fluid outlet.

35. A filter of claim 34 wherein the central core extends the length of the filter and has perforations through a portion of the central core toward one end of the filter element.

36. A filter of claim 34 wherein the central core is joined to an end cap on which the filter element abuts and which end cap has a central cylindrical extension in fluid communication with the central core and has a seal member on the outside of the central cylindrical extension which is coupled to the inside of the inlet of the housing.

37. A filter of claim 36 wherein the seal member further comprises a gasket, said gasket configured to direct the fluid into the filter element.

38. A filter of claim 34 wherein the filter element comprises a material selected from pleated media and non-pleated media.

1 39. A filter of claim 38 wherein the non-pleated media is selected from the group
2 comprising wrapped media, solid media and granular media.

1 40. A filter element of claim 38 wherein the pleated media comprises a material selected
2 from the group comprising cellulose, polypropylene, polyethylene, polyester, fiberglass, cloth,
3 paper, nylon, orlon, teflon and combinations thereof.

1 41. A filter element of claim 39 wherein the wrapped media comprises a material selected
2 from the group comprising spunbonded media and cloth.

1 42. A filter element of claim 34 further comprising a rigid support surrounding the filter
2 element.

1 43. A filter element of claim 42 wherein the rigid support comprises a mesh.

1 44. A filter element of claim 34 further comprising a top cap which covers the top of the
2 central core.

1 45. A method of filter fluids comprising the steps of:
2 flowing at least two fluids into a housing;
3 passing the fluids around a filter element partially surrounded by an a non-permeable
4 barrier at the lower end of the filter element;

1 allowing the fluids to separate by gravity so that the lighter fluid can flow above the
2 sleeve in the housing above the barrier;
3 further passing the lighter fluid through a filter media;
4 collecting the lighter fluid after passing through the filter element; and
5 collecting the heavier fluid in the housing.

1 46. A method of filtering fluids of claim 45 wherein the fluid mixture contains solids and
2 additionally filtering the solids by the filter element.

47. A method of filter fluids comprising the steps of:
flowing at least two fluids into a housing;
passing the fluids around a filter element partially surrounded by an a non-permeable
barrier at the upper end of the filter element;
allowing the fluids to separate by gravity so that the lighter fluid can flow above the
sleeve in the housing adjacent to the barrier
further passing the heavier fluid through a filter media;
collecting the heavier fluid after passing through the filter element; and
collecting the lighter fluid in the housing.

1 48. A method of filtering fluids of claim 47 wherein the fluid mixture contains solids and
2 additionally filtering the solids by the filter element.